

Response ID ANON-SE3P-ZUCT-1

Submitted to **A Consultation on the Beavers in Scotland Strategic Environmental Assessment Environmental Report**

Submitted on **2018-03-06 16:31:11**

Questions

1 Do you agree with the reintroduction policy and that the Environmental Report has correctly identified the potential impacts and appropriate mitigation? See Sections 4 and 5 respectively.

No

Please explain your answer.:

Our comments are limited to the sections of the report pertaining to fish and fisheries.

There are two questions here. With regard to the reintroduction policy, we remained concerned about the practical ability to deliver this policy. In particular:

- The report has highlighted that beaver introduction will potentially have a significant impact on both salmon and sea trout;
- We know that there are methods available to mitigate the impacts;
- Despite participating in the development of guidance for licensing management activity, this guidance has yet to be finalised and therefore it is difficult to judge the availability of such management tools. For example, we do not fully understand how the licensing system will operate to allow the removal or easement of dams associated with a burrow or a lodge during the breeding season (which overlaps with the migration of salmon and sea trout smolts);
- We are not certain that funds will be made available to assist with mitigation of impacts.

On that basis, the extent to which the potential significant impact can be mitigated is currently unclear and therefore we do not agree with the reintroduction policy. Specifically, we are concerned that unless management of beavers and their dams is fully funded, it is likely that the negative effects identified in the Environmental Report will occur. We note that easement or removal of dams to ensure fish passage is highlighted in the report as a mitigation for the identified potential for beavers to have an adverse effect on site integrity. However, there is no consideration of the resources required to undertake such management, or the affordability of doing so. Unlike man-made structures, if beaver dams are notched or breached, they will be repaired or re-built.

We note that there will be a need for fisheries managers to check all spawning tributaries for beaver activity and assess any dams that are present to ensure that they are passable. Such monitoring will need to take place during the spring smolt migration and again in the autumn. We have regularly raised this as a significant issue via the Scottish Beaver Forum.

In terms of wider policy, Fisheries Management Scotland are members of the National Species Reintroduction Forum, but we still do not have a strong understanding of where high-profile reintroduction projects sit within national priorities. It remains our position that until we can demonstrate that we are meeting the conservation objectives for our existing flora and fauna the limited resources for nature conservation should be deployed towards protecting and enhancing our existing natural resources.

With regard to the second question, whilst we consider that the Environmental Report has identified many of the potential impacts and appropriate mitigations, we consider that some potential impacts have not been fully identified or considered. These are set out in further detail in our response to questions 3, 4 and 5 below. Fisheries Management Scotland are members of the Scottish Beaver Forum, and we believe that the developing guidance and licensing regime will provide managers with the tools to undertake management action. However, as stated above, there is a distinction between such tools being available, and District Salmon Fishery Boards or Fisheries Trusts resourcing such management. Without additional resources, it is likely that the negative effects identified in the Environmental Report will occur.

We also recognise, subject to the concerns expressed in this response, the positive effects that beavers can have on rivers, particularly in relation to increasing river heterogeneity and restoring woody debris to channels. Beavers therefore have the potential to achieve many of the main aims of the existing river restoration projects taking place in Scottish rivers (provided that housing, infrastructure and high value land is not threatened by flooding). This is particularly the case where catchments are already impacted by man-made activities.

2 What are your views on the evidence set out in the Environmental Report that has been used to inform the assessment process?

Negative

Please give details of additional relevant sources.:

The Beaver Salmon Working Group discussed the potential impacts on salmon and trout in some detail and made the following clear recommendation: Monitoring and management will have resource implications, and therefore it is vital that such resources are committed, over the medium to long term, to relevant management authorities.

Annex 1 of that report, which was written by Marine Scotland Science reached the following general conclusion:

Beavers are a natural component of Scotland's wildlife heritage that was lost due to man's activities. Atlantic salmon evolved with beavers over millennia and clearly the two species co-occurred in Scotland. There is little doubt that beavers can generally have overall positive effects on production of some species of salmonid fishes due to their role in engineering river habitats and influencing the chemical dynamics within the watercourse (Kemp et al., 2012). However, their influence on Atlantic salmon is more ambiguous, because this species of fish is specialised for swift waters, which would be reduced by extensive beaver damming. Furthermore, Atlantic salmon is highly migratory and hence vulnerable to obstruction of free passage. As with beavers many years ago, Atlantic salmon may be threatened now by human activities, but in this case through the current general effects of climate change on the high seas (Todd et al., 2008) combined with a range of local impacting factors. It is therefore by no means certain that salmon across their range can tolerate negative effects of beavers in the way that once they could. It is likely that beavers would need to be managed to avoid negative effects and if done so carefully then any positive effects may be harnessed for the good of salmon. In this regard, the mapping work in this study provides a foundation for planning effective management strategies and can usefully be

extended more widely. If beavers expand their range in Scotland and more is understood of their detailed biology in this new landscape, then GIS might usefully be applied to predict damming points (Dryburgh, 2009). GIS might also be used to estimate the linear extent of tributaries in which dams might be constructed as an aid to management surveys for identifying and breaching beaver dams to protect spring salmon in upper river tributaries.

It is important to emphasise that unless mitigation is available and affordable, it is possible that the potential significant impacts identified in the Environmental Report will occur. As it currently stands we have to work on the basis that mitigation (dam removal or easement) may not be granted under license in some cases and may be prohibitively expensive in others. The affordability of mitigation measures has not been taken into account in the assessment process.

Further detail is provided in our answers below.

3 What are your views on the predicted environmental effects as set out in the Environmental Report? See page 15 and Section 4.

Neutral

Please explain your answer.:

With regard to fish and fisheries and the freshwater environment, we are in agreement with the predicted environmental effects as set out in the Environmental Report, though we note the relatively poor knowledge base for interactions with Atlantic salmon.

In particular, we highlight the following points which relate to fish and fisheries:

- From a fisheries perspective, it is likely that the two species which are most likely to be influenced by the presence of beavers are Atlantic salmon and trout. Whilst Atlantic salmon and trout co-exist across much of their range, they differ in respect of their in-stream habitat requirements. As well as differing in their usage of in-stream habitats, trout do not make as much use of larger tributaries for spawning as Atlantic salmon. This means that beaver activity on small streams may have a disproportionate importance for trout production. The contribution of trout from these streams to the overall fishery resource within the Scottish river catchments, including the supply of fish to already declining sea trout fisheries, is a key consideration.
- In some areas, beaver activities and dam-building may have positive effects on factors such as water quality downstream. Conversely, obstructions at the downstream end of important tributaries, such as those used by the spring stock component of Atlantic salmon populations, may affect access to important spawning areas.

We note that the Environmental Report has identified that tree felling may also undo some of the extensive tree-planting restoration work that has taken place in some catchments (particularly the upper areas of catchments which have little natural tree cover). Equally, we accept that in some cases, beavers in a mature wooded riparian zone may have benefits in introducing large woody debris into rivers, creating increased habitat diversity and cover from predation.

It is important to emphasise that since the completion of the beaver-salmon working group report there is increasing concern about summer and autumn salmon, whereas previously the focus has been primarily on spring stocks. Later-running stocks of summer and autumn fish are now in significant decline and these fish utilise the areas of the catchment where beavers are likely to be most successful. The impact of beavers on middle and lower river spawning stocks should receive a greater degree of attention in the Environmental Report. These stocks will include summer and autumn salmon and grilse, as well as sea trout.

4 Are there any other environmental effects that have not been considered?

Please give your comments:

In relation to Dams/pond creation, the prevention of free movement of fish to all habitats required during their life cycle is identified, particularly during key migration periods. However, the potential for delays in migration is not considered. Page 32 of the Beaver-Salmon Working Group report makes the following point:

Even if fish are able to pass in-stream structures such as beaver dams, these may cause delays, expenditure of additional energy and increased predation risk. The potential and scope for beaver dams to delay salmonid migration has not been investigated in detail.

We are clear that the ability of fish to pass dams (upstream or downstream) will be dependent on weather conditions and low flows may make otherwise passable structures un-passable. The overview of evidence from elsewhere in Europe (Page 182 of the Environmental Report) does not address this. Simply finding juvenile salmon above dams, does not mean that the adults were not delayed nor that they can gain access in every year. As is made clear in Taylor et al, 2009, rainfall patterns have a large effect on whether fish are able to pass beaver dams or not. It is unfortunate that so little work has been done on the relationships between rainfall, beaver dams and fish migration as this is the key question relating to fish access.

We do not consider that the current stock status of Atlantic salmon has been fully explored in the Environmental Report. The recent Conservation of Salmon (Amendment) Scotland Regulations 2018 were laid in the Scottish Parliament on 8 February 2018. Of the Scottish rivers assessed, 28 fall into Grade 1 (at least 80% probability that the conservation limit will be met), 21 fall into Grade 2 (60-80% probability that the conservation limit will be met) and 122 fall into Grade 3 (less than 60% probability that the conservation limit will be met). The Environmental report discusses the current position of the River Tay SAC (but we would emphasise that the grading for 2018 uses data from 2012-2016) but does not look at any other rivers. Given that the current policy position is to allow beavers to expand their natural range naturally, it is important that the conservation status of other rivers, and the underlying and worrying trend in salmon stocks across their natural range, must be considered.

In addition, 2017 was the second year in a row with a reduced grilse run - an issue that was not apparent when the Beaver Salmon Working Group was meeting. The geographically widespread nature of this issue points to the main issue being at sea. Multi-sea winter fish tend to be less numerous than grilse and this, combined with a worrying trend of smaller returning salmon (again probably due to issues at sea), means that the total number of salmon eggs deposited in Scottish rivers is on a downward trend. Marine Scotland Science are aware of this issue, but variation in size and fecundity are not currently captured in the Conservation Limits model.

We would again highlight the comments of Marine Scotland Science in the Beaver Salmon Working Group report:

As with beavers many years ago, Atlantic salmon may be threatened now by human activities, but in this case through the current general effects of climate

change on the high seas (Todd et al., 2008) combined with a range of local impacting factors. It is therefore by no means certain that salmon across their range can tolerate negative effects of beavers in the way that once they could.

5 Please provide any other comments you have on the Environmental Report.

Please give your comment::

We would emphasise again the fundamental need to ensure that management of beavers and their dams is fully funded. Without such funding, it is likely that the negative effects identified in the Environmental Report will occur in some areas. Until this issue is addressed, taking into account the current state of salmon stocks and the financial pressures that fisheries managers are currently operating under, we do not believe that beavers should be allowed to remain in Scotland.

Concerns have been expressed by our members about the basis for some of the effects noted in Table 4.11.2. This relates to whether certain fish species should be considered native to Scotland. If effects identified in the table as positive actually favour non-native species over native species, these should be identified as negative effects.

The Environmental Report states "In Scandinavia, where Atlantic salmon and beaver are both native, beavers have been actively managed for centuries and there is little published evidence of negative impacts." Actually, there is surprisingly little published evidence of any sort from Scandinavia. The potential for interactions are also limited by the loss of populations in some rivers through acidification and *Gyrodactylus salaris*, and the fact that the topography of the country often restricts salmon utilisation to valley-bottom larger channels, access to side channels being barred by steep gradients or waterfalls. This is a very different situation to lowland Scottish rivers.

About You

What is your name?

Name:

Alan Wells

What is your email address?

Email:

alan@fms.scot

Are you responding as an individual or an organisation?

Organisation

What is your organisation?

Organisation:

Fisheries Management Scotland

The Scottish Government would like your permission to publish your consultation response. Please indicate your publishing preference:

Publish response only (without name)

We will share your response internally with other Scottish Government policy teams who may be addressing the issues you discuss. They may wish to contact you again in the future, but we require your permission to do so. Are you content for Scottish Government to contact you again in relation to this consultation exercise?

Yes

Evaluation

Please help us improve our consultations by answering the questions below. (Responses to the evaluation will not be published.)

Matrix 1 - How satisfied were you with this consultation?:

Slightly dissatisfied

Please enter comments here.:

Matrix 1 - How would you rate your satisfaction with using this platform (Citizen Space) to respond to this consultation?:

Slightly dissatisfied

Please enter comments here.:

We are a membership organisation. It is not clear how to save a draft of our response to circulate to our membership for comment.